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| 10/815,401 | 03/31/2004 | Pierre Guillaume Raverdy | 80398P594 | 7970 |

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| EXAMINER |
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CHU, WUTCHUNG

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2619

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07/22/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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|------------------------------|--------------------------------------|---------------------------------------|--|
| Office Action Summary | Application No. 10/815,401 | Applicant(s) RAVERDY ET AL. | |
| | Examiner WUTCHUNG CHU | Art Unit 2619 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 April 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. This communication is in response to application's amendment filed on 4/10/2008. Claims 1-40 are pending.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 25 is non-statutory because a "medium" cannot include "data" as a result the medium is just instructions and therefore fails to fall within a statutory category under 101. **Claims 26-36** are also rejected since they depend from claim 25 and contain the same deficiency.

Since a computer program is merely a set an instructions capable of being executed by a computer, the computer program itself is not a process. In contest, a claimed computer-readable medium encoded with a data structure defines structural and functional interrelationships between the data structure and the computer software and hardware components which permit the data structure's functionality to be realized, and is thus statutory. Therefore, it is suggested the claims to be written as in terms of computer readable medium, stored with embodied with or encoded with a computer program or computer executable instructions.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 25-36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 25-36 are rejected under 35 USC 112 2nd. claim 25 claims "machine-accessible medium include data, when accessed by a machine, causes the machine to perform operation" is vague and indefinite because it is unclear how a medium can include data. A medium can have instructions stored on it, recorded on it, etc, but it is not clear how it can just comprise instructions. claims 26-36 are also rejected since they depend from claim 25 and contain the same deficiency.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claim 1, 3-8, and 10-13, 15-20, and 22-25, 27-32, and 34-36 is rejected under 35 U.S.C. 102(e) as being anticipated by Ayyagari (US20040174829).

Regarding claims 1, Ayyagari discloses a centralized network organization and topology discovery in ad-hoc network with central controller (**see paragraph 5**) comprising:

- a frame module (**see paragraph 25 central coordinator(Cco)**) to process a frame containing information regarding a local node in a first network (**see paragraph 70 identity of the CCO**), the information including discovery information (**see figure 2 box 56 Discovery_msg received and figure 5 discovery msg and paragraph 64**) and network state information (**see paragraph 64 network state information is not further specified and therefore the term is broadly interpreted and figure 5 Activity indicator which indicates how busy a device is corresponds to network state information**), the discovery information being represented in a common description (**see paragraph 55 line 1 – 9 and figure 5 and figure 6**);
- an information module coupled to the frame module to manage the information (**see paragraph 75-79 where CCo maintains a topology table**); and
- a communication module coupled to the frame module and the information module to manage communication between the local node and a remote node (**see paragraph 21 and 75-79 where CCo maintains a topology table of the discovered node lists and topology is being update in paragraph 84, and paragraph 88 where node communicate with CCo is being specified with beacon message**) in a second network using the information (**see paragraph 21**).

Regarding claim 3, Ayyagari teaches the frame receiver forwards the received remote frame to the communication module if the received remote frame is related to the network communication (**see paragraph 88 beacon message**).

Regarding claim 4, Ayyagari teaches the frame receiver forwards **(see paragraph 89 line 7-10)** the received remote frame to the information module of the local node, to another local node in the first network, or to another remote node if the received remote frame is related to information exchange and meets an acceptance condition **(see paragraph 89 admission in the network)**.

Regarding claim 5, Ayyagari teaches the acceptance condition is based on a forwarding number and propagation parameters **(see paragraph 79)** including a propagation list **(see paragraph 76)** and a propagation type **(see paragraph 89 slot number of a contention channel)**, the forwarding number and the propagation type being contained in the frame **(see paragraph 89 line 1-5 and paragraph 91 line 3 T_discovery_interval)**.

Regarding claim 6, Ayyagari teaches the information module comprises:

- a collector to collect the information **(see paragraph 113)**;
- a translator coupled to the collector to translate the discovery information into the common description **(see figure 6 and paragraph 66 line 10-11)**;
- a node selector coupled to the collector to determine if the local node participates in the communication based on the network state information of the local node and other network state information from another local node in the first network **(see paragraph 70 a new device that has been selected as the CCo)**; and

- a synchronizer to synchronize the collected information with other information from other local nodes in the first network **(see paragraph 55 and 84 update its discovered node list).**

Regarding claim 7, Ayyagari teaches the information module further comprises:

- an information table to store entries regarding information extracted from a received remote frame **(see paragraph 76 topology table);** and
- an information table updater to update the entries **(see paragraph 84).**

Regarding claim 8, Ayyagari teaches the communication module comprises:

- a usage evaluator to evaluate network usage to determine relative location of the second network based on an interference list from the network state information **(see paragraph 118 line 3-6 and paragraph 147);**
- a channel migration evaluator to evaluate a channel allocation layout **(see paragraph 118 line 6-11 quality indicator);**
- a channel change controller to control a channel change based in the channel allocation layout **(see paragraph 118 line 8-10);** and
- a channel changer to change channel of the local node according to a wireless mode used by the node **(see paragraph 118 line 8-10 and paragraph 121 line 1).**

Regarding claim 10, Ayyagari teaches the discovery information includes information on at least node device (**see figure 1 ref20 ref 30**), node service (**see paragraph 46**), and user (**see figure 1 ref20 ref 30**).

Regarding claim 11, Ayyagari teaches the network state information includes at least one of network configuration (**see paragraph 70**), network status (**see paragraph 64 line 12**), network history, and an interference list.

Regarding claim 12, Ayyagari teaches the interference list includes at least a network from which the local node receives a beacon or directly receives a remote frame from the remote node (**see paragraph 46**).

Regarding claims 13, 15-20, and 22-24, Ayyagari disclose all the limitations as discussed in the rejection of apparatus claims 1, 3-8, and 10-12 and are therefore method claims 13, 15-20, and 22-24 are rejected using the same rationales.

Regarding claims 25, 27-32, and 34-36, Ayyagari teaches a self-organizing ad-hoc communication networks (**see paragraph 4 it is inherent devices (nodes) are computerized and is functioned by a set data**) and disclose all the limitations as discussed in the rejection of apparatus claims 1, 3-8, and 10-12 and are therefore article or manufacture claims 25, 27-32, and 34-36 are rejected using the same rationales.

Regarding claims 37-40, Ayyagari disclose all the limitations as discussed in the rejection of apparatus claims 1-2, 6, and 8 and are therefore apparatus claims 37-40 are rejected using the same rationales.

Claim Rejections - 35 USC § 103

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 2, 9, 14, 21, 26, and 33 rejected under 35 U.S.C. 103(a) as being unpatentable over Ayyagari in view of Barber et al. (US20050073979).

Regarding claim 2, Ayyagari teaches the frame module comprises:

- a frame builder to build the frame containing the information (**see paragraphs 57-60 and it is inherent for message to contains information**);
- a frame transmitter (**see paragraph 58**) coupled to the frame builder (**see paragraphs 57-60 and it is inherent for message to contains information such as allocation frame number, time slot**) to transmit the frame (**see paragraph 58 a message transmitted by the CCo**) to another local node in the first network or the remote node in the second

network (**see Ayyagari paragraph 54 the node communicates with the CCo directly or through an intermediary node, and registers in the network**);

- a frame receiver to receive another frame from another local node in the first network (**see paragraph 48 a discovery msg message has been received**) or to receive a remote frame from the remote node (**see paragraph 24 and 88-89**);

and disclose all the subject matter of the claimed invention with the exception of

- a frame poller coupled to the frame transmitter to provide a polling frame requesting for information of the remote node.

In the background of Barber et al. the same or similar fields of endeavor teaches the use of polling interaction (see Barber et al. paragraph 12 and figure 12 and paragraph 103 package up traffic between visitor clients). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the polling and packaging of traffic as taught Barber et al. in the discovery in ad-hoc network with central controller of Ayyagari in order to increase efficiency of the transmission system.

Regarding claim 9, Ayyagari disclose all the subject matter of the claimed invention with the exception of the channel migration evaluator evaluates an alternate layout based on a relationship between interference and channel distance. Barber et al. from the same or similar fields of endeavor teaches the use of distance between two radio sources is determinable from signal strength (**see Barber et al. paragraph 84**), and calculated physical positions of each radio and stats about nearby

interference (**see Barber et al. paragraph 86**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the determining signal strength, and calculating physical positions of each radio and stats about interference as taught by Barber et al. in the ad-hoc network with central controller of Ayyagari in order to increase efficiency of the transmission system.

Regarding claims 14, 21, 26, and 33, Ayyagari disclose all the limitations as discussed in the rejection of apparatus claims 2 and 9 and are therefore apparatus claims 14, 21, 26, and 33 are rejected using the same rationales.

Response to Arguments

10. **With regard to applicant's remark for claim 1 (page 11)**, applicant submit that the Ayyagari does not disclose a network state information. The term "network state information" is not further specified, and therefore is broadly interpreted as any network state information, and figure 5 Activity indicator which indicates how busy a device is corresponds to network state information, which shows how busy a device is of the network corresponds to network state information and therefore meet the limitation and rejection respectfully remains.

11. **With regard to applicant's remark for claim 1 (pages 11-14)**, applicant submit that the Ayyagari does not disclose managing the information. The term "managing the information" is not further specified, and therefore is broadly interpreted as any information being managed/processed. Paragraph 75-79 where CCo maintains a topology table of the discovered node lists and topology is being update in paragraph 84, and paragraph 88 where node communicate with CCo is being specified with

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beacon message, therefore CCo manage network topology table information and manage communication session between itself and a node with use of beacon message, and thus meets all limitations and rejection respectfully remains.

Examiner's Note: examiner has cited particular columns and line numbers in the references applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the figures may apply as specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

In the case of amending the claimed invention, applicant is respectfully requested to indicate the portion(s) of the specification which dictate(s) the structure relied on for proper interpretation and also to verify and ascertain the metes and bounds of the claimed invention.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Dohler et al. (US2004/0131025)

Barber et al. (US2004/0076134)

Stine (US7266085)

Stine (US2003/0033394)

13. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to WUTCHUNG CHU whose telephone number is (571)270-1411. The examiner can normally be reached on Monday - Friday 1000 - 1500EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edan Orgad can be reached on 571 272 7884. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/WC/

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/Edan Orgad/

Supervisory Patent Examiner, Art Unit 2619